

# SIM231

## SIM231 4.3" WQVGA Graphic/Touch Module Family



*Powered by the*



## Professional 4.3” GUI Performance

With a bright 4.3” 480x272 LCD screen and powered by a 100MHz Renesas RX63-series MCU with Serious Gatling™ Technology for rapid-fire pixel delivery, proximity and ambient light sensing, the SIM231 can deliver an outstanding front control panel experience for your product.

Power, UART, SPI, and I2C connectivity is provided by a wire-harness-friendly 16-pin connector perfect for simple attachment to existing systems. Or use the 60-pin low profile board-to-board header for custom daughter-card development and more complex connectivity including USB host and device.

SIM231 is an Extended Lifetime Roadmap Product and is fully supported by the SHIP rapid GUI development and deployment system.

## Family Highlights

### 4.3” Bright, WQVGA 480x272 color TFT display

- Serious Gatling™ Technology accelerated
- Various touch options
- Ambient light sensing
- Various LCD options, including Multi-Viewing Angle

### 100MHz 32-bit Renesas RX63N/RX631 MCU

- 128kB RAM, up to 768kB FLASH

### On Module Memory

- 8MB or 16MB SDRAM
- 8MB or 16MB Serial FLASH + 4Kbit EEPROM

### Extensive I/O

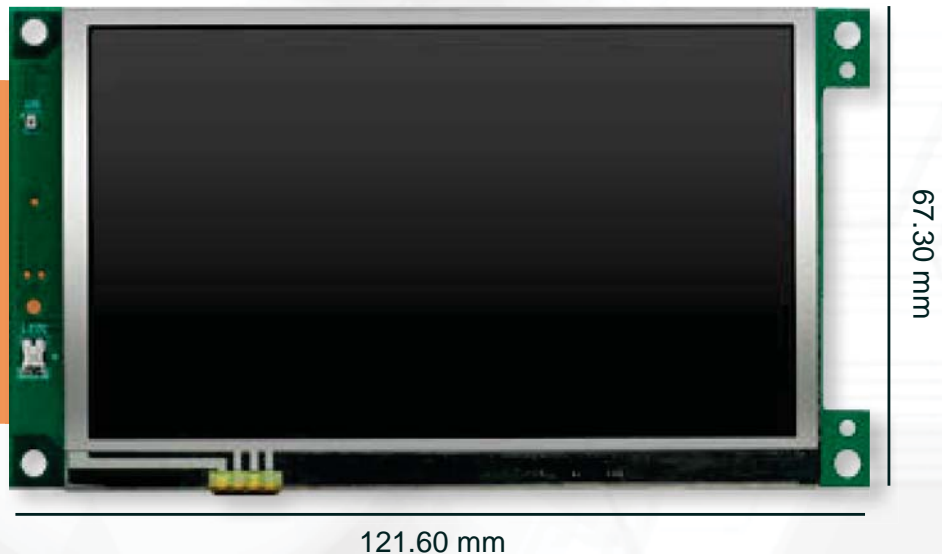
- 60-pin Board-to-Board I/O Expansion (Power, GPIO, CAN, UART, I2C, I2S, SPI, USB Host, Device...)
- 16-pin Wire Harness Expansion (Power, UART, I2C, I2S, SPI,...)
- USB 2.0 FS Embedded Host
- USB 2.0 FS Device
- SHIP Programming Port
- Tag-Connect TC2070 JTAG

### Wide Operating Range

- -20 to +70°C extended operating temperature
- 3.6 to 5.50 VDC Input Power

Update your product’s front panel with *Serious* modules:

- ✓ Production worthy
- ✓ Prototype friendly
- ✓ Rapid GUI development





# Product Options

**Product Options to fit your**  
feature, performance  
and cost targets

## Family Variants

	A01	A02	A03	A04
MCU RX Family	63N		631	
MCU FLASH (KB)	768		512	
MCU RAM (KB)	128			
SDRAM/Serial FLASH (MB)	16/16		8/8	
LCD Touch	R4		R4	
Serious Gatling™ Technology	●	●	●	●
Ambient Light Sensing	●	●	●	●
16-Pin Wire-to-Board Power/I/O Connector	●	●	●	●
Tag-Connect JTAG	●	●	●	●
SHIP Programming Connector	●	●	●	●
60-pin serial/power expansion	●	●	●	●
USB2.0 FS Device circuitry	●	●	●	●
USB2.0 FS Device Micro B	●			
USB2.0 FS 150mA Host A	●			
Piezo Sounder	●			
RTCC w/Battery Backup	●			
PCB Temp Sensor	MCU			
RMI on 60-Pin	●			
Front LED	●			

## LCD Options

	R32ALM	N32ALM
Size	4.3" Diagonal Active	
Resolution (WxH)	480 x 272	
Touch	R4	
NITs	300+	
Backlight Life (Hour)	20K+	
Viewing	Multi-viewing Angle	
Color Depth (bits)	24	
Temp Range (°C)	-20/+70	

Visit [www.seriousintegrated.com/SIM231](http://www.seriousintegrated.com/SIM231)  
for complete, up-to-date variants.



# Building a GUI is easy when you get **SERIOUS™**

Develop your GUI using the Serious Human Interface™ Platform for professional results in a fraction of the time of traditional coded development.

## Fast GUI Development with SHIP

Are you looking for a comprehensive PC-based WYSIWYG rapid-GUI development environment with minimal coding? Use the Serious Human Interface Platform (SHIP) to create a complete, communicating and functioning GUI in just *hours*. See [seriousintegrated.com/SHIP](http://seriousintegrated.com/SHIP) for more details.



## Serious Communications Modules

Serious offers numerous communications daughter cards for Serious Integrated Modules to help complete your hardware design in connected environments, including CAN, RS232, RS485, WiFi, Bluetooth, Ethernet and more.

[Serious Communications Modules](#) (SCM117, SCM118 and SCM208, sold separately) dock into the back of 3rd and 4th Generation SIMs, providing connectivity, 9-25VDC to 5VDC power conversion for the SCM and SIM and an optional on-board OEM programmable 32-bit MCU for custom protocol conversion between your OEM system and the SIM.

## Development Kits

Purchase a SIM231-A01-DEV-01 development kit today, which contains everything you need to start working with SIM231, including:

- SIM231-A01-R32ALM module
- Acrylic demo enclosure
- AC power adapter
- Sample 16-pin cable
- SHIP Programming Adapter 200 (SPA200) Kit

## Partner Support

Serious is a Renesas Platinum Partner. Serious Integrated Modules are supported with software and services from Renesas and Serious strategic partners.



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**IAR SYSTEMS**

## Ordering Information

Visit [www.seriousintegrated.com/buy](http://www.seriousintegrated.com/buy) for ordering information, or contact an authorized Serious distributor:



## Need More Information?

Contact your local *Serious* Representative or contact your Arrow Electronics Applications Engineer.

Visit [seriousintegrated.com/SIM231](http://seriousintegrated.com/SIM231) for

- Ordering information
- Mechanical Design Package (MDP)
- Technical Reference Manual (TRM)
- Schematics and more

Visit the *Serious* community at [mySerious.com](http://mySerious.com)

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